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SEATTLE CITY LIGHT WORK ORDER #89-5
SEATTLE CITY LIGHT REAL PROPERTY SITE ASSESSMENTS

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I. INTRODUCTION

During the week of March 6, 1989, Raven Services Corporation reconnoitered some properties that are candidates for future City Light real estate transactions. These include property adjacent to University Substation at Northeast Pacific Street and Sixth Avenue Northeast, property at North Aloha Street and Aurora Avenue North, the old site of Battery Substation at Western Avenue and Battery Street, and the old site of Georgetown Pump Station where Eighth Avenue South extends to the Duwamish Waterway. As a result of the reconnaissance, property descriptions were acquired. Only at the Georgetown property was it deemed necessary to perform testing.

II. RECONNAISSANCE

A. University Substation Environs

As shown in Figure 1, property A is privately owned and is the former site of Norton Tile Co. The fence gate has been smashed. Nothing remains on the property except a flatbed truck with a Norton sign on the door, two barrels (55 gal.) and a third rusty barrel. One barrel is open and apparently contains old rainwater with an oily coating on the surface. One barrel appears to be 1/2 full of motor oil. The third has unknown contents and must be cut open. Because of rust, this barrel is not sealed. There are some small (4' X 8') slabs of concrete near the gate and a few square feet of oily black soil around the slabs. No evidence for underground tanks was found. The property is covered with grass and small weeds. The north border is lined with dense blackberry brambles.

Property B is a nursery full of outdoor potted plants. There is a house as shown whose address number is 3814. Both property B and the house to the north have junk ranging from rusty pipes to automobiles around the houses.

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Property C is fenced with a cyclone fence and is used for storage of an assortment of frames of thin metal pipes for some unknown purpose. The lot is covered with thin grass above gravelly, sandy soil. The adjacent property appears to be used by persons in the Seattle Aikikai Building (a martial arts school) who occupy the north side of the school.

Property D is entirely paved and contiguous with the property to the south to form a large parking lot. There is a pile of old logs in the NE corner adjacent to the substation.

B. Aurora Property

This property is described as a mesa extending east from the condominium whose address is 601 N. Aloha St. The property has become an extension of the back yard of this condominium and is landscaped as such. Scrub trees and grass cover the entire cliff surfaces, but ivy plants have been cultivated along the south edge of the plateau, and short brambles have been cultivated along the east and north edge. The billboards are supported by steel I-beams sunk in the cliffside soil. There is no evidence of any industrial activity or hazardous material spillage either current or historic. Herbicides, however, may have been applied by the landscaper. The street corner, shown in Figure 2, is a right angle street, but is drawn at 60° angle to show the perspective of the cliffs.

C. Battery Substation

This site is an entirely paved and recently landscaped parking lot [Central Park Co.]. The only exposed soil is the recently composted berm material. The drainage of the lot appears to be in excellent order. Elevations that appear on the map shown in Figure 3 were taken from the 1956 substation map and may have changed after the more recent paving.

D. Georgetown Pump Station

The property is a lot with grass and a few weeds. There is a capped standpipe at the northeast corner of the pumphouse. The standpipe is nine feet deep from its upper rim and contains one foot of rusty but not oily water. A test hole was dug three feet north of the pipe to a depth of 6.5 feet without any evidence of a tank. Either the standpipe is continuous or the tank is very small. A test hole dug adjacent to the pipe would answer the question in the future.

Eight samples were collected for PCB analysis on March 14. These included wipe tests inside the pump house and water/soil samples outside. The sample locations are shown in Figure 4. Testing methods and results follow.

III. SAMPLING METHODOLOGY

A. Container and Sampling Equipment

All samples were placed in 30 ml wide-mouth glass containers that had been pre-cleaned. The screw cap lids were lined with aluminum foil. The pre-cleaning procedure involved scrubbing with a special petrochemical dissolving biodegradable soap [HarborMaster Products, Inc., Edmonds, Washington]. The terminal end of the brush applied had sufficient bristles to scrub the seam where the side connects with the bottom. A final rinsing with methylene chloride was undertaken to remove any invisible greases and detergent residues.

B. Field Observations

Data on the collection process and observations of the physical nature of the sample were kept in the bound field log book. The format for this book is chronological.

C. Sampling Strategy

In accordance with EPA SW-846, sampling strategy for wipe tests was chosen to provide random patterns. Areas were chosen to include

both container surfaces and structural member surfaces where oil was visible. A 1000 cm² area was swabbed in each case as a sample size sufficiently large to provide resolution of trace amounts. The results were converted to mass per 100 cm². The real sample locations were chosen in areas of activity by humans or nature.

D. Sample Collection

Method 8080 in the EPA SW-846 manual describes the protocol for handling of organochlorine pesticides and polychlorinated biphenyls. Compliance with these instructions necessitated using glass containers and specified conditions for refrigeration. All samples in our case were delivered to the laboratory in time to comply with the maximum seven days storage for extraction and thirty days for complete analysis.

Wipe test samples were collected on Webril Handi Pads [Kendall Co.] by scrubbing the surfaces. The pads were stored in sample jars with 20 ml of pesticide grade methylene chloride. Each pad was removed from the prepared sample jar with surgical hemostats, held with the hemostats during swabbing, and replaced in the same jar after the wiping. These particular pads have demonstrated undetectable blanks in the past.

The water sample was acquired with a stainless steel thief attached to the end of a 10-foot long steel rod and lowered into the standpipe spout. Soil samples were collected with a stainless steel spoon.

All samples are listed in Table I. Their physical descriptions are given in Table II. Sample locations at the pump station are presented in Figure 4.

E. Analysis

Samples, stored no longer than five days at 4^o C, were extracted into nannograde hexane. Oily samples were pre-treated with

Florisil filters to remove residues that interfere with the PCB determination [cleanup modification of USEPA Method 3540, as specified by 40CFR136]. The samples were analyzed by a modification of the packed column gas chromatography procedure described in Method 8080. Detection and confirmation of positive signals was accomplished with a Hewlett-Packard 5730A gas chromatograph using a DB-5 column. This column is a state-of-the-art commercial column evolved from those designated in Method 8080. Concentrations below 0.1 micrograms per 100 cm², or for soils, 0.1 ppm, are specified not detectable. QA/QC data and raw signal data are available upon request.

III. RESULTS AND DISCUSSION

In spite of the large sample size, the wipe tests performed inside the Georgetown pumphouse picked up very little PCBs. The concentration was too low for aroclor characterization, as was the case with the remaining samples. Since the concentrations found in the tests described here were so low, no recommendations for further sampling are made at this time.

The existence of an underground tank adjacent to the pumphouse was not disproven in this study, however, further exploration, such as excavation of the standpipe would have been recommended if the water sample had contained visible oil. No such oil was observed.

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TABLE I
SAMPLE LISTINGS

<u>Wipe Test Sample #</u>	<u>PCB Content micrograms per 100 cm²</u>	<u>Bulk Sample #</u>	<u>PCB Concentration ppm</u>
B-1	<0.5	B-4	<0.2
B-2	<0.5	B-5	<0.5
B-3	<0.5	B-6	<0.5
		B-7	<0.5
		B-8	<0.5

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TABLE II

SAMPLE DESCRIPTIONS*

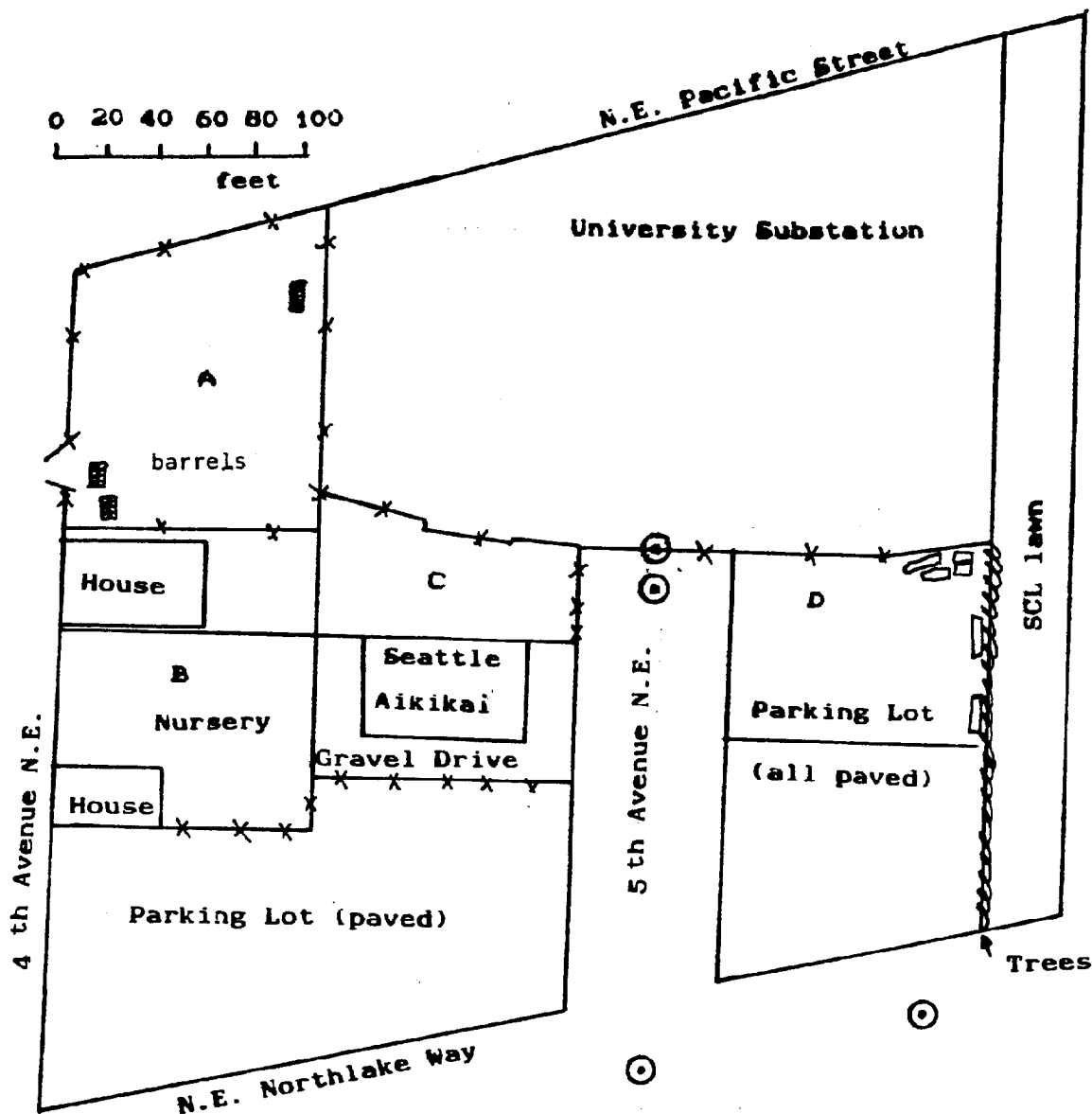
<u>SAMPLE #</u>	<u>TYPE</u>	<u>DESCRIPTION</u>
B-1	wipe test	oily surface of two tank switches on wall + drips on some wire cables
B-2	wipe test	painted floor with old oil splotches below a switchrack
B-3	wipe test	composite wipe of top front and bottom front of two big capacitor motor starter cases
B-4	standpipe water	rusty, turbid water nine feet down from standpipe spout; water was about one foot deep
B-5	vertical soil composite	scrapings from wall of 6-foot deep test hole; mostly sand with some ivory clay, black ash, and brick chips
B-6	surface soil sample	floor of gatehouse; brown sand with a few pebbles in area between two large gate valves
B-7	surface soil sample	black, fine sandy silt in pathway from door to pumphouse
B-8	surface soil sample	north side of drainage ditch from back of property; sample taken at what appeared to be high tide line

* All the B series samples were taken from the Georgetown Pump Station property.

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Legend:

—x—x— Fence

▬ Old logs

⊙ Survey benchmark

A Private property

B Occupied parcel

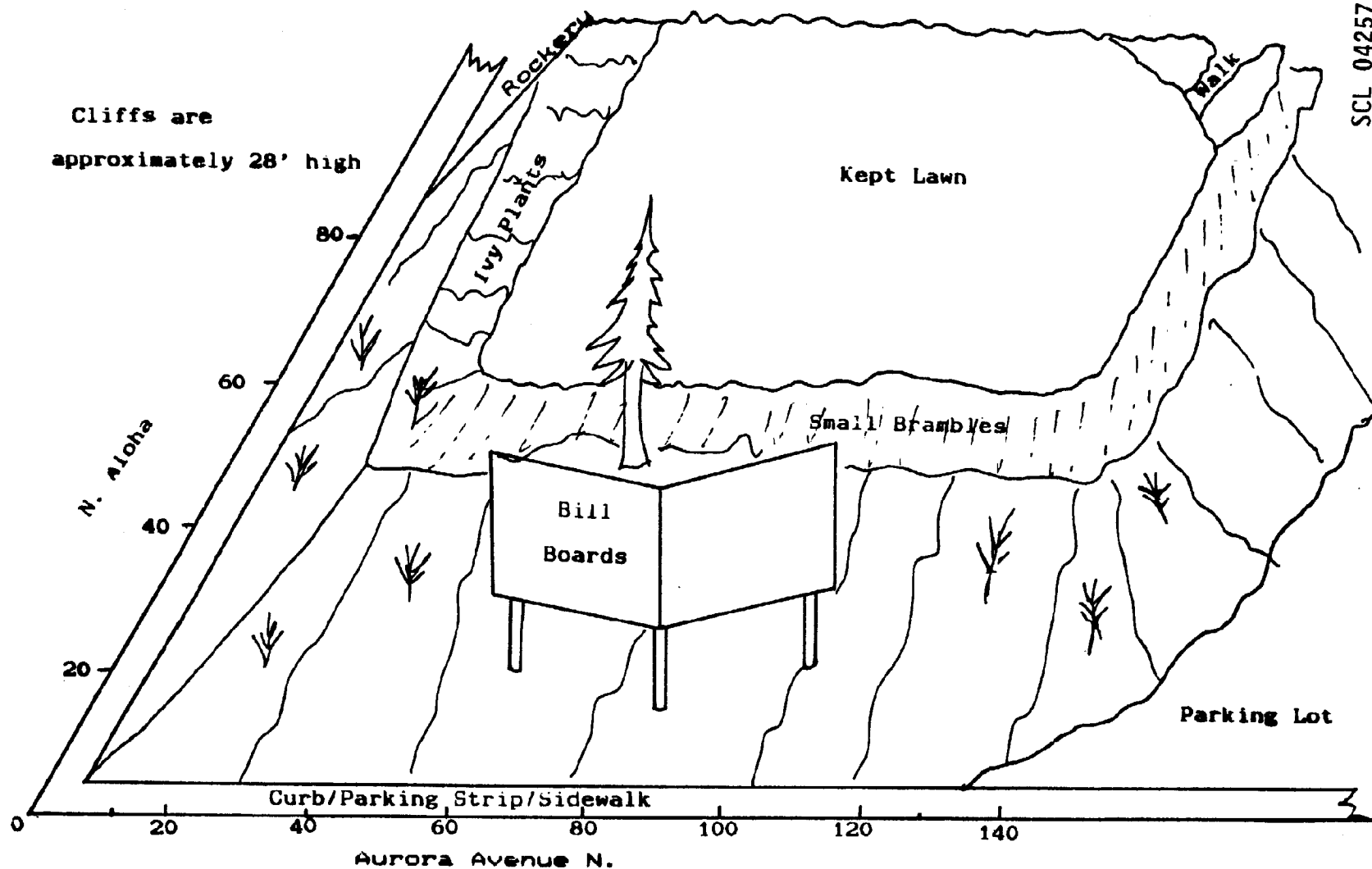
C Lawn and metal frame storage

D Parking lot only



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SCALE: feet	APPROVED BY: <i>MSH</i>	DRAWN BY: LSG
DATE: 4/10/89		REVISED: MTH
Fig. 1 Univ. Sub Environs		
LA TERRE ENVIRONMENTAL CONS.		DRAWING NUMBER: 89-5-1

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**RAVEN SERVICES CORP.**SCALE *feet*

APPROVED BY

DRAWN BY *LSG*DATE *4/10/89*

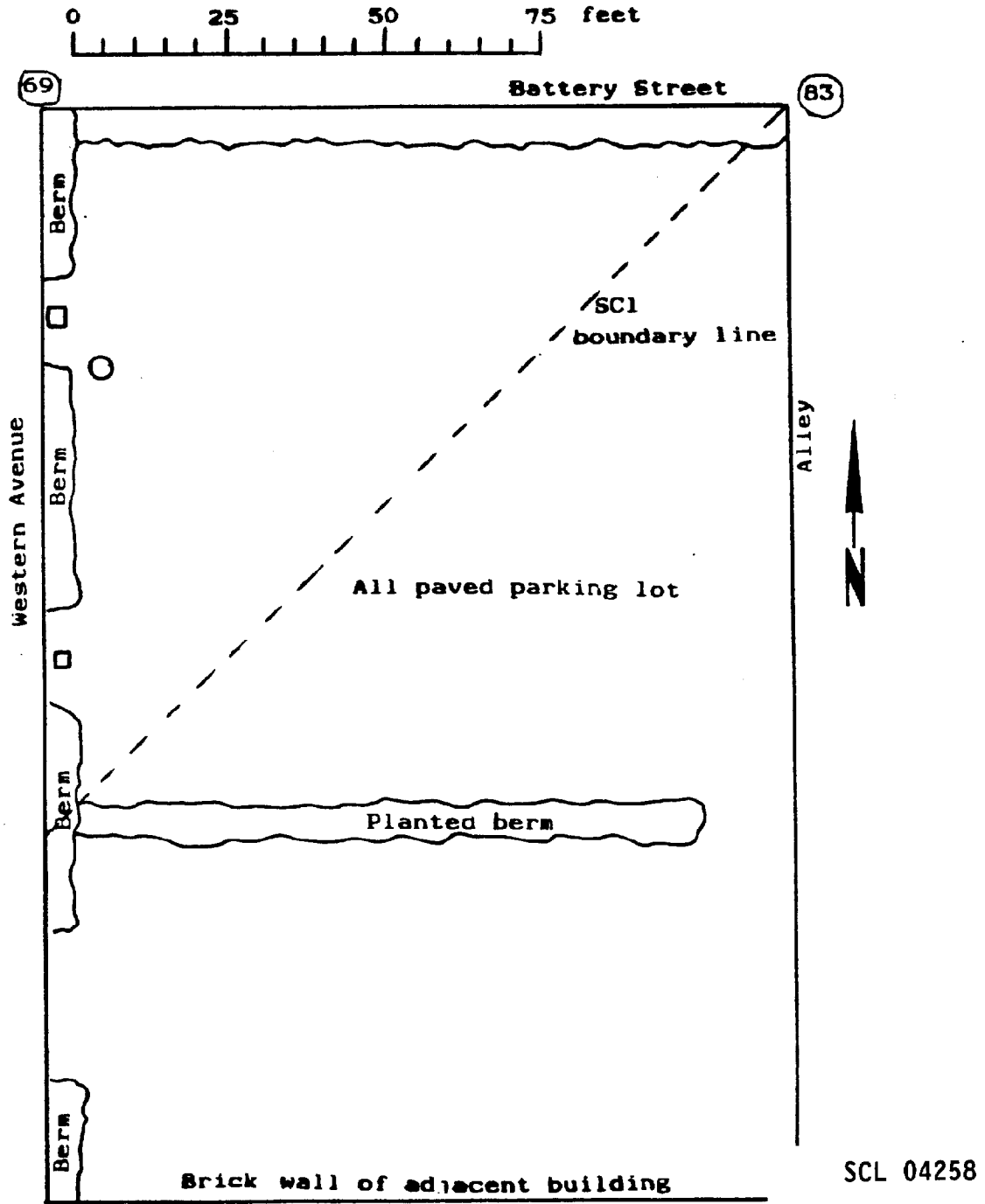
REVISED

Fig 2. *N. Aloha - Aurora Prop.*

LA TERRE ENVIRONMENTAL CONS.

DRAWING NUMBER
89-5-2

BATTERY STREET SUBSTATION



Legend:

⑥9 Elevation in feet

□ Storm drain

○ Manhole drain

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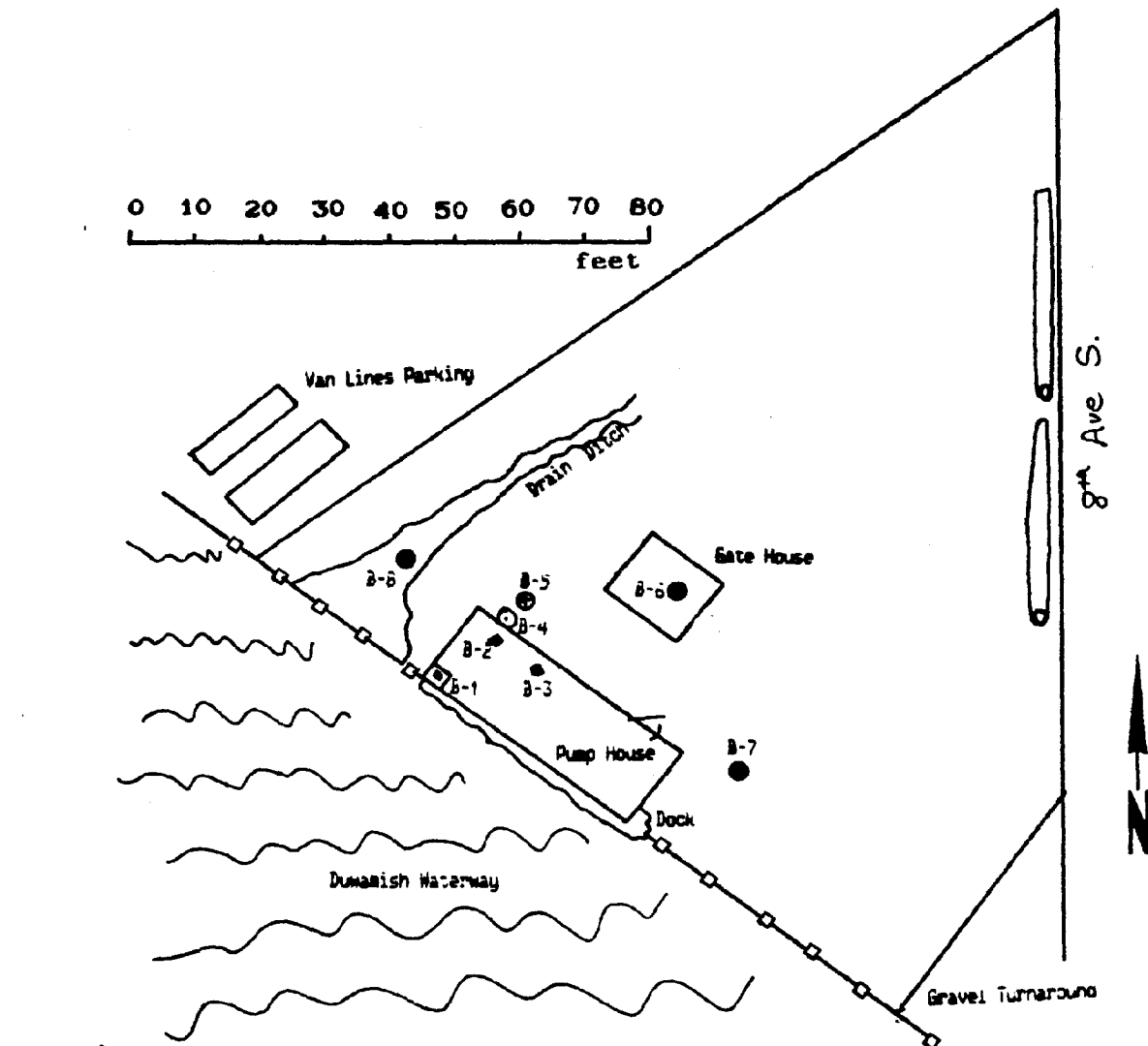
SCALE feet	APPROVED BY <i>MJA</i>	DRAWN BY <i>L56</i>
DATE		REVISED

Fig 3. Battery Sub Prop.

LA TERRE ENVIRONMENTAL CONS.	DRAWING NUMBER 89-5-3
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- Legend:**
- Surface soil sample
 - ◆ Wipe test
 - ⊙ Spout and water sample
 - ⊗ Test hole and vertical composite
 - Fence
 - Old logs
 - o-o- Tide retention wall

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SCALE: feet	APPROVED BY: <i>M. J. H.</i>	DRAWN BY: LSG	
DATE: 4/10/89		REVISED:	
Fig 4. Georgetown Pump Station			
LA TERRE ENVIRONMENTAL CONS.			DRAWING NUMBER: 89-5-4

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